



**Final**

3 FEBRUARY 2021

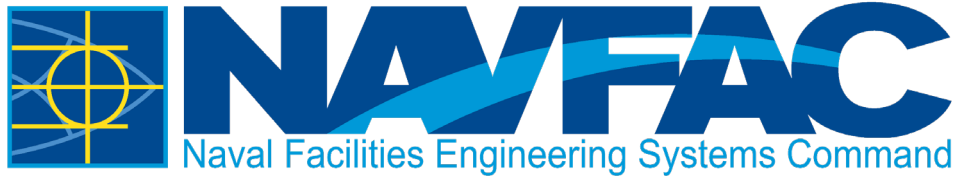
# **Monitoring Reduction and Well Decommissioning Recommendations Adak Operable Unit A and Former Adak Naval Complex NAS Adak**

Adak, Alaska

**Department of the Navy  
Naval Facilities Engineering Systems Command  
Engineering Field Activity, Northwest  
1101 Tautog Circle  
Silverdale, WA 98315-1101**



This page intentionally left blank



**Department of the Navy  
Naval Facilities Engineering Systems Command Northwest**

**Final  
Monitoring Reduction and  
Well Decommissioning  
Recommendations  
Adak Operable Unit A and  
Operable Unit B-1  
Former Adak Naval Complex  
NAVAL AIR STATION ADAK, ADAK, ALASKA**

**February 2021**

Prepared for NAVFAC Northwest by  
**AECOM Technical Services Inc**  
**1111 3rd Ave Suite 1600**  
**Seattle WA 98101**

**N62742-17-D-1800**  
**CTO N6247319F5052**

This page intentionally left blank

---

## CONTENTS

Acronyms and Abbreviations	v
1. Introduction	1
2. Groundwater Monitoring Reduction	1
2.1 Process for Monitoring Reduction	1
2.2 Groundwater Monitoring Recommendations	2
2.2.1 2018 Biennial Approved Monitoring Modifications	2
2.2.2 2019 Annual Approved Monitoring Modifications	5
3. Well Decommissioning	6
3.1 Process for Well Decommissioning	6
3.1.1 Site Received Cleanup Complete Determination	6
3.1.2 Active Monitoring Site Optimization	7
3.2 Wells Proposed for Decommissioning	7
4. Conclusions and Recommendations	11
4.1 Groundwater Monitoring Reduction Moving Forward	11
4.2 Well Decommissioning Moving Forward	12
5. References	12

## FIGURES

1 Location Map	15
2 Locations of OU A Institutional Control Sites	17
3 Locations of OU B-1 Institutional Control Sites	19
4 Locations of CERCLA and SAERA Monitoring Sites	21
5 Wells Proposed for Decommissioning	23

## TABLES

1 Long-Term Monitoring Program Schedule	2
2 Wells Identified to be Decommissioned	7

This page intentionally left blank

---

## ACRONYMS AND ABBREVIATIONS

ADEC	Alaska Department of Environmental Conservation
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CMP	comprehensive monitoring plan
DRO	diesel range organics
EPA	Environmental Protection Agency, United States
GCI	General Communications, Inc.
IC	institutional control
LTM	long-term monitoring
LUC	land use control
MNA	monitored natural attenuation
NAVFAC	Naval Facilities Engineering Systems Command
Navy	Department of the Navy, United States
NFA	No Further Action
NMCB	Naval Mobile Construction Battalion
OU	operable unit
ROD	record of decision
SA	source area
SAERA	State-Adak Environmental Restoration Agreement
SWMU	solid waste management unit
TAqH	total aqueous hydrocarbons
U.S.	United States
UXO	unexploded ordnance
VOC	volatile organic compound

This page intentionally left blank



## 1. Introduction

The United States (U.S.) Department of the Navy (Navy), Naval Facilities Engineering Systems Command (NAVFAC) Northwest contracted AECOM Technical Services, Inc. to conduct a screening level risk assessment for Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) sites at the Former Adak Naval Complex, Adak, Alaska (Figure 1). Additionally, the Navy is working toward providing stakeholders with a complete compilation of current methods for reducing the environmental activities on Adak consistent with U.S. Environmental Protection Agency (EPA) and Alaska Department of Environmental Conservation (ADEC) regulations. These activities include groundwater monitoring, institutional controls (ICs) inspection, and environmental well decommissioning.

This document presents the processes for the reduction in environmental monitoring that will allow for discontinuation of monitoring at CERCLA sites at the Former Adak Naval Complex, Adak, Alaska.

The work was performed under contract number N62742-17-D-1800, contract task order N6247319F5052.

## 2. Groundwater Monitoring Reduction

The remedies for CERCLA, State-Adak Environmental Restoration Agreement (SAERA), and landfill sites require ICs and periodic sampling of environmental media. Figure 2 shows the locations of operable unit (OU) A sites where ICs are monitored, and Figure 3 shows the locations of OU B-1 sites that are inspected. Figure 4 presents sites with active monitoring requirements. Monitoring described in the comprehensive monitoring plan (CMP), Revision 8 (U.S. Navy 2020b) is performed to evaluate the effectiveness of the stated remedies at these sites. Recommendations for modifications/reductions in the monitoring program are based on the data collected and supported by data analysis. These recommendations are developed annually and presented in the groundwater/landfill monitoring report.

### 2.1 PROCESS FOR MONITORING REDUCTION

The monitoring program is modified annually based on long-term monitoring (LTM) observations and in response to changing site conditions and data trend analyses, as approved by ADEC and EPA. Sites on Adak are currently monitored annually, biennially, or every 5 years depending on the site remedy status and as outlined in the CMP, Revision 8 (U.S. Navy 2020b).

Stable or decreasing concentration trends will be considered evidence that the remedies are functioning as intended. NAVFAC Northwest, ADEC, and the EPA will assess the data from each planned monitoring event and reach a consensus regarding the need to revise the monitoring program on a site-by-site basis. If concentration trends are decreasing as a whole or on an analyte-specific basis, NAVFAC Northwest, ADEC, and EPA may agree that a reduction in monitoring is appropriate. The CMP, Revision 8 (U.S. Navy 2020b) documents up-to-date Navy-, ADEC-, and EPA-approved changes.

Monitoring endpoint criteria are represented by a set of chemical-specific conditions and field observations that indicate whether the remedial action objectives have been met and monitoring can be terminated. Endpoints are evaluated on a chemical- and location-specific basis. Specific endpoint criteria for CERCLA and SAERA sites are described in the CMP, Revision 8 (U.S. Navy 2020b). Monitoring may be terminated on an analyte- and matrix-specific basis if cleanup levels (specified in CMP Tables 11-1 through 11-8) have been met.

## 2.2 GROUNDWATER MONITORING RECOMMENDATIONS

Based on the 2018 (biennial) and 2019 (annual) monitoring program results, the monitoring reduction recommendations that were approved by ADEC and EPA are presented in the following sections. Future sampling requirements are included in the CMP tables that are updated after each sampling event. Future annual, biennial, and every-five-years sampling requirements are shown in Table 1.

**Table 1: Long-Term Monitoring Program Schedule**

Year	CERCLA/SAERA			Landfill	
	Annual <sup>a</sup>	Biennial	NAPs <sup>b</sup>	Biennial <sup>c</sup>	5-year <sup>d</sup>
2019	X				
2020	X	X		X	
2021	X				
2022	X	X		X	
2023	X				
2024	X	X	X	X	X
2025	X				
2026	X	X		X	
2027	X				
2028	X	X	X	X	X
2029	X				
2030	X	X		X	
2031	X				

Notes:

Light gray shading indicates the year the 5-year reviews will be conducted.

Dark gray shading indicates the year that the NAP and 5-year sampling events will be conducted.

NAP natural attenuation parameter

UST underground storage tank

<sup>a</sup> Annual monitoring will be performed at Area 303; GCI Compound (UST GCI-1); Former Power Plant, Building T-1451; and SWMU 60, Tank Farm A. In 2019 only, six additional wells (MW-62-16-01, MW-62-16-02, MW-62-16-04, MW-62-16-05, MW-62-16-06, and MW-62-16-07) at SWMU 62 New Housing Fuel Leak Area will be monitored.

<sup>b</sup> NAPs sampling will be conducted at all SAERA sites.

<sup>c</sup> Palisades Landfill and Roberts Landfill (metals in surface water).

<sup>d</sup> White Alice Landfill and Roberts Landfill (metals in groundwater).

### 2.2.1 2018 Biennial Approved Monitoring Modifications

The following subsections describe the 2018 approved monitoring modifications (U.S. Navy 2019) for sites that are currently monitored on a biennial basis.

#### 2.2.1.1 HOUSING AREA (ARCTIC ACRES)

Diesel range organics (DRO) concentrations remain at or above the endpoint criterion in the currently monitored site wells. Therefore, it is recommended that groundwater monitoring continue as prescribed.

#### 2.2.1.2 NAVAL MOBILE CONSTRUCTION BATTALION BUILDING T-1416 EXPANDED AREA

Gasoline-range free product continues to be observed in several on-site wells; therefore, it is recommended that groundwater monitoring at this site continue biennially. Further, groundwater monitoring is recommended to recommence at well Naval Mobile Construction Battalion (NMCB)-10 biennially and be discontinued at well (02-455). Surface water protection monitoring should continue at well NMCB-11 and wells 02-453 and 02-818. Because measurable free product has not been

detected in wells 02-452, 02-478, 02-479, and 02-817 since 2006 and well 02-819 since 2010, it is recommended that depth to water and product thickness measurements be discontinued at these wells.

#### *2.2.1.3 RESIDENT OFFICER IN CHARGE OF CONSTRUCTION CONTRACTOR'S AREA (UST ROICC-7)*

Because benzene concentrations remain above the endpoint criterion in the currently monitored site wells, it is recommended that groundwater monitoring continue as prescribed. The Navy will be adding well 08-175 to the LTM sampling program in 2020 to monitor groundwater downgradient from both the benzene plume and well 08-200 as described in the Annual Groundwater and Landfill Monitoring Report (U.S. Navy 2020a).

#### *2.2.1.4 SOURCE AREA 79, MAIN ROAD PIPELINE, SOUTH END*

Because DRO concentrations remain at or above the endpoint criterion in the currently monitored site wells, it is recommended that groundwater monitoring continue as prescribed.

#### *2.2.1.5 SOURCE AREA 80, STEAM PLANT 4*

DRO continues to exceed endpoint criterion in site wells. The DRO concentration is exhibiting an increasing trend in well 04-158. However, the concentration trends are stable at wells 04-173 and SP4-3 and decreasing at well 04-159. Measurable free product continues to be observed in some site wells and periodic product recovery activities continue at the site. Additionally, evidence shows that monitored natural attenuation (MNA) is occurring in groundwater at the site. Therefore, it is recommended that groundwater monitoring continue as prescribed.

#### *2.2.1.6 SOUTH OF RUNWAY 18-36 AREA*

DRO continues to exceed endpoint criterion in shoreline sediments, and total aromatic hydrocarbons and total aqueous hydrocarbons (TAqH) continue to exceed endpoint criteria in two surface water protection wells. Because of the continued exceedance of endpoint criterion for DRO in sediment, the continued exceedance of endpoint criteria for total aromatic hydrocarbons and TAqH in surface water protection wells, and the observance of free product in other site wells, it is recommended that groundwater and sediment monitoring at the site be continued as prescribed.

#### *2.2.1.7 SOLID WASTE MANAGEMENT UNIT 11, PALISADES LANDFILL*

Since the summation of polychlorinated biphenyl Aroclor concentrations, as well as the antimony, arsenic, and nickel concentrations, in sediment are consistently above the endpoint criteria at sampling location 102, it is recommended that sediment monitoring of these contaminants of concern be continued biennially at the three current locations.

#### *2.2.1.8 SOLID WASTE MANAGEMENT UNIT 13, METALS LANDFILL*

Since the observance of arsenic and barium concentrations continue to remain below endpoint criteria, the Navy recommends that sampling for target dissolved and total metals (arsenic and barium) be discontinued, as described in the Annual Groundwater and Landfill Monitoring Report (U.S. Navy 2020a). In addition, it is recommended that measurement of methane in site wells be discontinued, as no measurable levels have been detected in the past 10 years of monitoring.

#### *2.2.1.9 SOLID WASTE MANAGEMENT UNIT 14, OLD PESTICIDE STORAGE AND DISPOSAL AREA*

DRO, gasoline range organics, total lead, and dissolved lead did not exceed their respective endpoint criteria during 2018 sampling; however, they have in other recent sampling events. Therefore, it is recommended that groundwater monitoring for these parameters be continued as prescribed.

#### 2.2.1.10 SOLID WASTE MANAGEMENT UNIT 17, POWER PLANT 3

Vinyl chloride and cis-1,2-dichloroethene remain above endpoint criteria in compliance well 05-735 but are exhibiting statistically significant decreasing trends at the 80 and 95 percent confidence intervals and have met the CMP, Revision 8 (U.S. Navy 2020b) secondary endpoint criteria. Therefore, it is recommended that sampling at the site be discontinued as described in the Annual Groundwater and Landfill Monitoring Report (U.S. Navy 2020a).

#### 2.2.1.11 SOLID WASTE MANAGEMENT UNITS 18/19, WHITE ALICE LANDFILL

It is recommended that sampling for target dissolved and total metals (arsenic, barium, chromium, and nickel) be continued every 5 years as prescribed. In addition, it is recommended that measurement of methane in site wells be discontinued as no measurable levels have been detected in the past 10 years of monitoring.

#### 2.2.1.12 SOLID WASTE MANAGEMENT UNIT 25, ROBERTS LANDFILL

Groundwater collected from solid waste management unit (SWMU) 25, Roberts Landfill did not exceed any endpoint criteria. Also, volatile organic compounds (VOCs) were not detected in surface water collected from Roberts Landfill. Therefore, it is recommended that monitoring for VOCs in surface water and groundwater be discontinued because VOCs have not been detected above detection limits since 1999. However, to continue monitoring of potential contamination sources to surface water, it is recommended to reduce sampling at monitoring wells A-2, A-3, A-5, and B-1 to every 5 years to coincide with the five-year review process.

Because of the continued exceedances of the endpoint criteria for aluminum and copper in several surface water samples, the Navy recommends that surface water monitoring for metals continue biennially at the prescribed locations. In addition, it is recommended that measurement of methane in site wells be discontinued, as no measurable levels have been detected in the past 10 years of monitoring.

#### 2.2.1.13 SWMU 55, PUBLIC WORKS TRANSPORTATION DEPARTMENT WASTE STORAGE AREA

The 2018 perchloroethylene concentration exceeds the endpoint criterion in well 55-145 but shows a statistically significant decreasing trend at the 80 and 95 percent confidence intervals and has met the CMP, Revision 8 (U.S. Navy 2020b) secondary endpoint criterion. Therefore, it is recommended that sampling at the site be discontinued as described in the Annual Groundwater and Landfill Monitoring Report (U.S. Navy 2020a).

#### 2.2.1.14 SWMU 61, TANK FARM B

It is recommended that groundwater monitoring at this site, coupled with shoreline inspection for visible evidence of contamination, continue biennially as prescribed to allow time for MNA to be effective. The Navy is also considering conducting a remedy evaluation to address impacted groundwater adjacent to North Sweeper Creek.

#### 2.2.1.15 SWMU 62, NEW HOUSING FUEL LEAK AREA (SANDY COVE HOUSING)

Based on the continued exceedance of the DRO endpoint criterion, it is recommended that groundwater monitoring at wells 03-155, MW-107-1, MW-134-11, MW-146-1, and MW-187-1 continue as prescribed. However, it is recommended that monitoring be discontinued at well 03-619 since the DRO concentration has not exceeded endpoint criterion in the last 10 sampling events.

#### 2.2.1.16 TANKER SHED (UST 42494)

Because DRO concentration remains above the endpoint criterion in three of the currently monitored site wells, it is recommended that monitoring continue as prescribed.

### 2.2.2 2019 Annual Approved Monitoring Modifications

The following subsections describe the 2019 approved monitoring modifications (U.S. Navy 2020a) for sites that are currently monitored on an annual basis.

#### 2.2.2.1 AREA 303/GENERAL COMMUNICATIONS, INC. COMPOUND (UST GCI-1)

No target analytes have been detected above endpoint criteria for at least three consecutive monitoring events at wells MW-303-38 and MW-303-44. Therefore, sampling at these locations will be discontinued as specified in the CMP, Revision 8 (U.S. Navy 2020b).

Benzene has not been detected above endpoint criteria at wells 03-107 and MW-303-42, and gasoline range organics have not been detected above endpoint criteria at well 03-518 for at least three consecutive monitoring events. Sampling for these analytes at these locations will be discontinued as specified in the CMP, Revision 8 (U.S. Navy 2020b).

Because 14 remaining wells have not met the endpoint criteria, the prescribed groundwater monitoring at these locations will continue.

#### 2.2.2.2 FORMER POWER PLANT, BUILDING T-1451

No target analytes have been detected above endpoint criteria for at least two consecutive monitoring events at wells 01-150, MW-1451-5, MW-1451-16-01, and MW-1451-16-02. Therefore, sampling at these locations will be discontinued as specified in the CMP, Revision 8 (U.S. Navy 2020b).

DRO and TAqH continue to exceed endpoint criteria in groundwater in various site wells. Additionally, recoverable free product continues to be observed in several site wells. Therefore, the prescribed monitoring will continue.

#### 2.2.2.3 SWMU 60, TANK FARM A

DRO, total aromatic hydrocarbons, and TAqH have continued to exceed endpoint criteria in various site wells and sediment. Additionally, free product continues to be observed in site wells, although at a reduced volume and frequency. No monitoring reductions are currently recommended, and the prescribed annual monitoring should continue in 2020.

#### 2.2.2.4 SWMU 62, NEW HOUSING FUEL LEAK AREA (EAGLE BAY HOUSING)

No DRO have been detected above endpoint criteria for three consecutive events at MW-62-16-01. Therefore, sampling at this location will be discontinued as specified in the CMP, Revision 8 (U.S. Navy 2020b).

DRO continues to exceed endpoint criterion for groundwater in various site wells and continued intermittent occurrence of free product has been observed. It is recommended that the five remaining monitoring wells (MW-62-16-02 and MW-62-16-04 through MW-62-16-07) installed in 2016 in the SWMU 62, New Housing Fuel Leak Area, continue to be included in the LTM program, and the groundwater, surface water, and sediment monitoring at this site continue as prescribed.

### 3. Well Decommissioning

As sites are closed or wells are no longer needed for the monitoring program at the Former Adak Naval Complex, the Navy can petition ADEC and EPA, through reporting recommendations, that wells be decommissioned.

#### 3.1 PROCESS FOR WELL DECOMMISSIONING

The Navy's Installation Restoration Program has matured at the Former Adak Naval Complex and most of the property has been transferred to various civilian and Native Alaskan entities. A large portion of the planned restoration work has been completed, and the ongoing Installation Restoration Program consists primarily of monitoring efforts associated with:

- Compliance monitoring
- MNA
- Natural attenuation evaluation monitoring
- Surface water protection

Final remedies are being evaluated, including future monitoring components, at a limited number of sites. Wells that are not required for these monitoring programs represent a potential physical hazard to current and future Adak residents, and provide a potential conduit for future environmental impacts.

Wells are selected for decommissioning at sites where No Further Action (NFA), Cleanup Complete, No Further Remedial Action Planned, or Cleanup Complete with ICs status has been achieved. The Navy proposes wells for decommissioning through recommendations in the Annual Groundwater and Landfill Monitoring Reports based on the above. ADEC has, on occasion, requested that wells be added to the decommissioning list upon issuing Cleanup Complete or Cleanup Complete with ICs letters. During review of the reports, ADEC and EPA can comment on the proposed well decommissioning list. Report approval from ADEC and EPA acknowledges their agreement with and approval of the list, and the identified wells are approved for decommissioning during the next Navy decommissioning event.

##### 3.1.1 Site Received Cleanup Complete Determination

The following sites previously included in the OU A record of decision (ROD) have received NFA, Cleanup Complete, No Further Remedial Action Planned, or Cleanup Complete with ICs status and have no future monitoring use:

- Antenna Field
- North Pacific Hill Seep Area
- Runway 5-23 Avgas Valve Pit
- Source area (SA) 78, Old Transportation Building
- SA 82, P-80/P-81 Buildings
- SA 88, P-70 Energy Generator
- SWMU 15, Future Jobs/Defense Reutilization Marketing Office
- SWMU 58/SA 73, Heating Plant 6
- Yakutat Hangar (UST 2039-A)

### 3.1.2 Active Monitoring Site Optimization

Since the last well decommissioning event in 2014, the following sites contain monitoring wells that are no longer part of the current monitoring program and have been selected for decommissioning:

- Area 303/General Communications, Inc. (GCI) Compound (underground storage tank GCI-1)
- NMCB Building T-1416 Expanded Area
- Runway 5-23 Avgas Valve Pit
- SA 78, Old Transportation Building
- SA 79, Main Road Pipeline
- SA 80, Steam Plant 4
- South of Runway 18-36
- SWMU 14, Old Pesticide Storage and Disposal Area
- SWMU 17, Power Plant 3
- SWMU 18/19, White Alice Landfill
- SWMU 25, Roberts Landfill
- SWMU 58/SA 73, Heating Plant 6
- SWMU 60, Tank Farm A
- SWMU 62, New Housing Fuel Leak (Eagle Bay Housing)
- SWMU 62, New Housing Fuel Leak (Sandy Cove Housing)
- Tanker Shed
- Yakutat Hangar

### 3.2 WELLS PROPOSED FOR DECOMMISSIONING

Following completion of each annual monitoring event and finalization of the Annual Groundwater and Landfill Monitoring Report, wells proposed for decommissioning are added to a running list that is provided to the Navy. This list is maintained until the number of wells justifies the cost of mobilizing a drill rig and crew to Adak, upon which the Navy will program a well decommissioning event. The current well decommissioning list (Table 2 and Figure 5) includes 148 wells across 17 sites listed above.

**Table 2: Wells Identified to be Decommissioned**

Site	Well ID
Area 303/GCI Compound (UST GCI-1)	03-895
	HMW-303-6
	MRP-MW4
	MW-303-22
	MW-303-23
	MW-303-24
	MW-303-25
	MW-303-26

Site	Well ID
Area 303/GCI Compound (UST GCI-1) (cont'd)	MW-303-27
	MW-303-29
	MW-303-34
	MW-303-35
	MW-303-36
	MW-303-45
	MW-303-46
	MW-303-47
	SV-303-02
	Unknown ID
	04-212
NMCB Building T-1416 Expanded Area	02-301
	02-302
	02-461
	E-201 <sup>a</sup>
	E-202
	NMCB-05 <sup>a</sup>
	NMCB-06
	NMCB-09
Runway 5-23 Avgas Valve Pit	14-100 <sup>a</sup>
	14-110 <sup>a</sup>
SA 78, Old Transportation Building	12-801 <sup>a</sup>
	12-802 <sup>a</sup>
	MW-117 <sup>a</sup>
SA 79, Main Road Pipeline	02-450
SA 80, Steam Plant 4	04-801
	SP4-2
South of Runway 18-36	02-518
	18/36-03 <sup>a</sup>
	28-807
	28-808
	E-205
	E-206 <sup>a</sup>
	E-207
	E-209 <sup>a</sup>
	E-215
	E-218
	LC6A
	MRP-11
	MRP-12
	RW-18/36-01
	RW-18/36-02 <sup>a</sup>
	RW-18/36-07 <sup>a</sup>
	Z3-2



Site	Well ID
SWMU 14, Old Pesticide Storage and Disposal Area	01-153
	76-147
	76-148
	MW-1(15-1)
SWMU 17, Power Plant 3	05-375
	PP-04
	PP-05
	R-1
SWMUs 18/19, White Alice Landfill	Unknown ID
SWMU 25, Roberts Landfill	Unknown ID
	Unknown ID
SWMU 58/SA 73, Heating Plant 6	12-105
	12-121
	12-124
	12-125
	12-203
	12-601
	12-604
	12-610
	12-611
SWMU 60, Tank Farm A	MW-E006
SWMU 62, Eagle Bay Housing	03-518
	CTO-124-MW14
	HMW-303-1
	HMW-303-10
	HMW-303-2
	HMW-303-5
	HMW-303-9
	MW-303-1
	MW-303-10
	MW-303-14
	MW-303-18
	MW-303-2
	MW-303-22
	MW-303-4
	MW-303-5
	MW-303-6
	MW-303-9
	RW-303-6
	RW-303-7
	RW-303-9

Site	Well ID
SWMU 62, Sandy Cove Housing	03-108
	03-661
	03-692
	03-802
	03-895
	04-871
	HMW-102-1
	HMW-102-8
	HMW-102-9
	HMW-134-2
	HMW-146-3
	HMW-184-1
	MW-102-1
	MW-102-2
	MW-102-4
	MW-102-5
	MW-102-7
	MW-107-11
	MW-107-5
	MW-107-6
	MW-107-8
	MW-107-9
	MW-114-2
	MW-114-3
	MW-134-15
	MW-134-8
	MW-139-2
	MW-139-3
	MW-139-4
	MW-139-5
	MW-146-11
	MW-146-9
	MW-160-2
	MW-160-4
	MW-167-6
	MW-179-4
	MW-184-3
	MW-184-4
	MW-402-9
	RW-102-6

Site	Well ID
Tanker Shed	04-176
	04-178
	04-303
	04-304
	04-307
	04-308
	04-309
	04-310
	04-311
	04-314
	04-317
	TS-02
	TS-04
Yakutat Hangar	Unknown ID (Recovery Well)

ID identification

<sup>a</sup> Decommissioning this monitoring well will be evaluated following development of the sampling and analysis plan for the site inspection for per- and polyfluoroalkyl substances to assess whether this monitoring well may be needed for groundwater sampling for per- and polyfluoroalkyl substances.

## 4. Conclusions and Recommendations

The following conclusions and recommendations are made based on data collected as of the writing of this report.

### 4.1 GROUNDWATER MONITORING REDUCTION MOVING FORWARD

Statistical trend analysis is performed on monitoring wells for analytes in groundwater which exceeded endpoint criteria during the previous two sampling events. If endpoint criteria are exceeded during the previous two sampling events, a Mann Kendall test is performed. The analysis output indicates whether parameter trends are increasing, decreasing, or exhibiting no trend. No further statistical analysis is performed if the trend is increasing or exhibiting no trend. If a statistically significant decreasing trend was identified in the Mann-Kendall trend analysis, Sen's slope estimate is used to calculate the overall median slope. Monitoring is discontinued or reduced at monitoring wells with statistically significant decreasing trends (both Mann Kendall and Sen's slope evaluation) and that do not pose a threat to downgradient receptors.

Based on the statistical trend analysis and individual wells having met endpoint criteria for three consecutive events, the following sites have been approved by EPA and ADEC for reduction in groundwater monitoring per CMP, Revision 8 (U.S. Navy 2020b):

- *Naval Mobile Construction Battalion Building T-1416 Expanded Area:* 02-452, 02-478, 02-479, 02-817 and well 02-819
- *Solid Waste Management Unit 13, Metals Landfill:* Methane in site wells
- *Solid Waste Management Unit 17, Power Plant 3:* Sitewide
- *Solid Waste Management Unit 18/19 White Alice Landfill:* Methane in site wells
- *Solid Waste Management Unit 25 Robert's Landfill:* A-2, A-3, A-5, B-1 and Methane in site wells

- *SWMU 55 Public Works Transportation Department Waste Storage Area: Sitewide*
- *SWMU 62, New Housing Fuel Leak Area (Sandy Cove Housing): 03-619*
- *Area 303/General Communications, Inc. Compound (UST GCI-1): MW-303-38 and MW-303-44*
- *Former Power Plant, Building T-1451: 01-150, MW-1451-5, MW-1451-16-01, and MW-1451-16-02*
- *SWMU 62, New Housing Fuel Leak Area (Eagle Bay Housing): MW-62-16-01*

Details describing the proposed groundwater monitoring reductions are discussed in Section 2.

Statistical analysis on some monitoring wells have exhibited non-statistically significant decreasing trends, indicating that discontinued or reduced monitoring may be possible in the future at the following locations:

- *Area 303/GCI Compound (UST GCI-1): 03-518, 04-210, 04-211, MRP-MW3, and MW-303-28*
- *Former Power Plant, Building T-1451: 01-118 and MW-1451-2*
- *Housing Area (Arctic Acres): 03-420, 03-421, and 03-890*
- *Resident Officer in Charge of Construction Contractor Contractor's Area (UST ROICC-7): 08-200 and 08-202*
- *SA 79, Main Road Pipeline, South End: 02-230*
- *SA 80, Steam Plant 4: 04-159*
- *SWMU 14, Old Pesticide Storage and Disposal Area: MW-14-5*
- *SWMU 60, Tank Farm A: 650*
- *SWMU 61, Tank Farm B: TFB-MW4B*
- *SWMU 62, New Housing Fuel Leak Area (Sandy Cove Housing): MW-107-1 and MW-146-1*
- *SWMU 62, New Housing Fuel Leak Area (Eagle Bay Housing): MW-303-7*

#### **4.2 WELL DECOMMISSIONING MOVING FORWARD**

As mentioned previously, following completion of each annual monitoring event and finalization of the Annual Groundwater and Landfill Monitoring Report, wells no longer needed for current monitoring or are not anticipated to be needed in the future and proposed for decommissioning are added to a running list that is provided to the Navy.

### **5. References**

United States Department of the Navy (U.S. Navy). 2019. *Final Annual Groundwater and Landfill Monitoring Report 2018 Long-Term Monitoring Operable Unit A, Adak Alaska. Former Adak Naval Complex, Adak, Alaska*. Prepared by Sealaska Environmental Services, LLC for Naval Facilities Engineering Command Northwest. Silverdale, Washington. May 29.

———. 2020a. *Final Annual Groundwater and Landfill Monitoring Report 2019 Long-Term Monitoring Operable Unit A, Adak Alaska. Former Adak Naval Complex, Adak, Alaska*. Prepared

by Sealaska Environmental Services, LLC for Naval Facilities Engineering Command Northwest. Silverdale, Washington. May 20.

———. 2020b. *Final Comprehensive Monitoring Plan, Revision 8, Operable Unit A and B-1, Former Adak Naval Complex, Adak, Alaska*. Prepared by Sealaska Environmental Services, LLC for Naval Facilities Engineering Command Northwest. Silverdale, Washington. June 19.

This page intentionally left blank

**Figure 1: Location Map**

This page intentionally left blank



**Figure 2: Locations of OU A Institutional Control Sites**

This page intentionally left blank

**Figure 3: Locations of OU B-1 Institutional Control Sites**

This page intentionally left blank

**Figure 4: Locations of CERCLA and SAERA Monitoring Sites**

This page intentionally left blank

**Figure 5: Wells Proposed for Decommissioning**

This page intentionally left blank